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Technical efficiency and its determinants in the European Union

A. Nowak, T. Kijek, K. Domańska

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The study concerns the measurement of the technical efficiency of agriculture in the 27 European Union (EU) countries in 2010. The studies were conducted based on the result-oriented DEA method assuming variable advantages of scale. Moreover, in the study, the factors affecting technical efficiency were identified, and the econometric modelling of their impact was performed with the use of the Tobit model. The studies indicate that across the 27 EU Member States, the level of the technical efficiency of agriculture is diverse, and the difference between the states with the highest and the lowest efficiencies is 40%. Cyprus, Denmark, Greece, France, Spain, the Netherlands, Luxembourg, Italy and Malta were identified as the countries with the thoroughly technically efficient agriculture. In turn, the least technically efficient agriculture is observed for the Czech Republic, Lithuania, Hungary, Ireland, Latvia and Slovakia. Taking into account the factors determining the technical agriculture efficiency, it should be noted that the stimulants have proven to be such factors as: the soil quality, the age of the head of the household and the surcharges for investments. In turn, the size of the farm appeared to be irrelevant from the viewpoint of the technical efficiency of the agricultural sector.

Keywords:

efficiency of agriculture, EU Member States, Data Envelopment Analysis (DEA)

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